

Abstract of the Disclosure

Network address routing systems and techniques enable multiple lookup techniques and multiple data structures to be used in identifying a next-hop route for a single destination address. Various subparts of a destination address are examined separately to determine a set of route identification operations to be performed, and a routing matrix may be built. The separate examination of the subparts of the destination address may involve performing an EXCLUSIVE OR operation on multiple routing identifiers from a source and a destination address in a packet. Parallel processing may be used, such as by using multiple hardware threads in multiple programming engines in a hardware-based multithreaded processor. The determined set of route identification operations may include different lookup techniques and may employ different data structures.